



State of California –The Natural Resources Agency
 DEPARTMENT OF FISH AND GAME
 Inland Deserts Region
 3602 Inland Empire Blvd., Suite C-220
 Ontario, CA 91764
 (909) 484-0459
www.dfg.ca.gov

ARNOLD SCHWARZENEGGER, Governor
JOHN McCAMMAN, Director



U/PGM
 FERC
 13123

September 30, 2010

Mr. Paul Murphey
 Hearings and Special Projects
 State Water Resources Control Board
 1001 I Street, 14th Floor
 Sacramento, CA 95814

Subject: Draft Environmental Impact Report
 Eagle Mountain Pumped Storage Project
 State Clearinghouse No. 2009011010
 FERC Project No. 13123

STATE WATER RESOURCES
 CONTROL BOARD
 DIV. OF WATER RIGHTS
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Dear Mr. Murphey:

The Department of Fish and Game (Department) appreciates the opportunity to comment on the Draft Environmental Impact Report (DEIR) for the Eagle Mountain Pumped Storage Project (EMPS Project)[State Clearinghouse No. 2009011010; FERC Project No. 13123]. The Department is responding to the DEIR as a Trustee Agency for fish and wildlife resources (Fish and Game Code Sections 711.7 and 1802, and the California Environmental Quality Act [CEQA] Guidelines Section 15386), and as a Responsible Agency regarding any discretionary actions (CEQA Guidelines Section 15381), such as the issuance of a Lake or Streambed Alteration Agreement (LSA Agreement) [Fish and Game Code Sections 1600 et seq.] and/or a Permit for Incidental Take of Endangered, Threatened, and/or Candidate species (Incidental Take Permit) [Fish and Game Code Sections 2080 and 2080.1]. Please note that as a Responsible Agency, the Department must rely on the environmental document prepared by the Lead Agency in order to prepare and issue an LSA Agreement and/or Incidental Take Permit for the project. If the Final Environmental Impact Report (FEIR) for this project fails to identify all project impacts and adequately mitigate those impacts, the project proponent may be required to reinstate the CEQA process at their expense, or fund another CEQA process under the direction of the Department to ensure that all project impacts are identified and adequately mitigated.

The EMPS Project consists of a pumped storage hydroelectric facility using two existing abandoned mining pits near the town of Eagle Mountain at the edge of the Eagle Mountains in Riverside County within the California portion of the western Sonoran Desert. Water will be pumped from a lower pit/reservoir to an upper pit/reservoir during periods of low demand to generate peak energy during periods of high demand. To obtain the needed storage volume at the existing upper pit, two dams will be constructed along its perimeter. As the lower pit has sufficient storage for the total required volume, no dams will be needed for the lower reservoir. The project will consist of the following facilities:

- Two roller-compacted dams at the upper reservoir at heights of 60-feet and 120-feet
- An upper reservoir with a capacity of 20,000 acres-feet
- A lower reservoir with a capacity of 21,900 acres-feet
- Inlet/outlet structures

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- Water conveyance tunnels, consisting of a 4,000-foot long by 29-foot diameter upper tunnel, a 1,390-foot long by 29-foot diameter shaft, a 1,560-foot long by 29-foot diameter lower tunnel, four 500-foot long by 15-foot diameter penstocks leading to the powerhouse, and a 6,835-foot long by 33-foot diameter tailrace tunnel to the lower reservoir
- Surge control facilities
- A 72-foot wide, 150-foot high, and 360-foot long underground powerhouse with four Francis-type turbine units
- A 13.5-mile long, 500-kilovolt transmission line
- Water supply facilities, including a reverse osmosis system and associated brine ponds
- Access roads
- Appurtenant facilities

The Department has the following concerns about the project with respect to fish and wildlife resources and associated habitats. These concerns and the Department's recommendations to address these concerns are discussed further below.

- (A) Impacts to jurisdictional waters
- (B) Creation of surface water resources
- (C) Impacts to desert tortoise (*Gopherus agassizii*)
- (D) Impacts to Nelson's bighorn sheep (*Ovis canadensis nelsoni*)
- (E) Impacts to American badger (*Taxidea taxus*) and kit fox (*Vulpes macrotis*)
- (F) Impacts to bats
- (G) Impacts to sensitive bird species
- (H) Impacts to nesting birds

Impacts to Jurisdictional Waters

The DEIR states that "there are many small washes crossed by the (water) pipeline and transmission line...the water pipeline will be a continuous linear feature that will be buried under any dry washes along the route. A streambed alteration agreement will be developed with the CDFG to address the condition and location of all washes and mitigation measures to protect those washes." The DEIR infers that the project proponent has not completed a jurisdictional delineation and therefore has not identified all Department jurisdictional waters present within the project site. Furthermore, the project proponent has not quantified the total area of Department jurisdictional waters that will be impacted by the proposed project and defers mitigation for potential impacts to jurisdictional waters to the issuance of a LSA Agreement. Please note that a jurisdictional delineation and impact analysis will be required for the Department to process a LSA Agreement for the proposed project. Additionally, in order for the Department to utilize the FEIR to prepare and issue a LSA Agreement, the FEIR must identify all Department jurisdictional areas within the project site, quantify the amount of jurisdictional areas that will be impacted by the project, and provide adequate mitigation for impacts to those jurisdictional areas.

The DEIR states that 19.7 acres of desert dry wash woodland will be impacted by the proposed project. Desert dry wash woodland is associated with dry washes, which are jurisdictional under the Department. Desert dry wash woodland habitat supports the highest diversity of wildlife in the Sonoran Desert. This habitat provides for various wildlife species essential elements such

as food, water, and shelter, which may be scarce in desert habitats. Desert tortoises, deer, rodents, foxes, coyotes, badgers, and host of bird species are known to utilize desert dry wash woodland habitat. Desert dry wash woodland habitat should be included when identifying Department jurisdictional areas within the project site. Thus, the proposed project impacts of 19.7 acres to desert dry wash woodland habitat should be included when quantifying impacts to Department jurisdictional areas. Please note that due to the slow maturation rate of desert dry wash woodland plant species and the potential long-term affects of habitat removal on associated wildlife, removal of these plants for construction of project activities is considered a permanent impact and must be mitigated accordingly in the FEIR. The Department recommends a minimum replacement-to-impact ratio of 3:1 for permanent impacts to desert dry wash woodland.

The DEIR concludes that the project will not “substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river in a manner which would result in substantial erosion or siltation on- or off-site, or that would result in flood on- or off-site”, due to the fact that best management practices would be implemented and the drainage pattern would be maintained. The current design of the lower reservoir spillway as described in the DEIR involves the release of 460 cfs from the reservoir into the spillway channel, which will terminate beyond the Colorado River Aqueduct and subsequently be released over the alluvial fan. The Department is concerned that the lower spillway design will convey frequent surface flows at high velocity over the alluvial fan and any desert dry washes within the area below the spillway, causing frequent erosion and flooding, ultimately altering the existing drainage pattern of the area downstream of the project. Any long-term, cumulative impacts to dry washes and other Department jurisdictional areas as a result of the project, including an alteration to the existing drainage pattern on- or off-site, should be included when quantifying impacts to jurisdictional areas under the FEIR and in the project proponent’s notification to the Department for a LSA Agreement.

Creation of Surface Water Resources

The DEIR states that proposed project will include the creation of two surface water reservoirs with a combined capacity of 41,900 acre-feet and 56 acres of brine ponds. The Department is concerned that these new surface water resources in this portion of the Sonoran Desert will be an attractive nuisance for wildlife species. The DEIR proposes to minimize wildlife impacts associated with the created surface water sources by installing permanent security fencing around the reservoirs and the brine ponds to prevent wildlife access, except at designated drinking points. As proposed, this fencing will contain dips to allow wildlife to reach the water for drinking, but will be designed to exclude desert tortoise. This fencing will also be inspected monthly and during/following all major rainfall events, and any damage to fencing will be repaired immediately, followed by permanent repair within one week. The Department recommends the following with respect to fencing. All permanent fencing should be constructed of materials suitable for the desert environment to reduce the frequency of damage and need for repair. Any damaged fencing should be provided with permanent repair immediately rather than “within one week” as stated in the DEIR to ensure wildlife do not enter the reservoirs or brine ponds and consequently become injured or drown. Fencing for the brine ponds should be designed to exclude all types of wildlife and not include “dips” for drinking due to the contaminated nature of the water that will be present within the ponds. The DEIR states that the brine ponds will be designed to be “unattractive” to birds and that netting will be provided to prevent access by birds. Please explain how 56 acres of brackish water will be designed to be

“unattractive” to birds in an environment where surface water sources are scarce. In addition, the FEIR should describe how 56 acres of netting will be initially installed and subsequently maintained regularly for the life of the project.

Impacts to Desert Tortoise

The DEIR states that desert tortoise are present within the project site. In addition, the project site includes 82.1 acres of desert tortoise habitat, which consists of 16 acres of the Bureau of Land Management (BLM) designated Desert Wildlife Management Area (DWMA) habitat, 16.7 acres of Fish and Wildlife Service (FWS) designated critical habitat, and 65.4 acres of Category 3 habitat. Desert tortoise is a State- and Federally-listed threatened species.

The Department recommends that project construction and operation is scheduled and designed to avoid and minimize impacts to desert tortoise to the maximum extent possible. Prior to commencement of project activities, a qualified (per the FWS document “Qualifications and Requirements for Authorized Biologists”) biologist shall conduct surveys for desert tortoise using current FWS Pre-project Survey Protocol. Please note that the Department will only accept 100% coverage surveys and not probabilistic sampling. Desert tortoise surveys are valid for one year only and shall be conducted within the entire action area.

If desert tortoises are found onsite and cannot be avoided, or are proposed to be relocated or translocated, the project proponent shall apply for an Incidental Take Permit from the Department pursuant to Section 2080 et seq. of the Fish and Game Code and the California Endangered Species Act (CESA). “Take” of a species constitutes the hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill of that species. Please note that the CESA requires that the impacts of authorized take are minimized and fully mitigated. Early consultation with the Department to obtain an Incidental Take Permit is strongly encouraged, as significant modification to the proposed project and mitigation measures may be required in order to obtain take authorization. In order for the Department to utilize the FEIR to prepare and issue an Incidental Take Permit, the FEIR must identify all impacts to desert tortoise and provide adequate minimization and mitigation measures for impacts. Please note that any proposals to translocate desert tortoise will require a translocation plan to be developed in coordination with the Department and FWS using current FWS translocation guidance.

The transmission line route for the EMPS Project as described in the DEIR parallels Eagle Mountain Road and terminates at a proposed Interconnection Collector Substation at Desert Center north of Interstate 10. Alternatively, the transmission line of the adjacent Desert Sunlight solar power project currently being proposed by First Solar, Inc. includes a route that follows Kaiser Road, turns east just north of Desert Center and then heads south across Interstate 10 to Southern California Edison’s (SCE) planned Red Bluff Substation A. In addition, First Solar, Inc. is planning to use the area between Eagle Mountain Road and Kaiser Road as their desert tortoise relocation site. As a condition of the translocation, First Solar, Inc. will likely be required to fence Kaiser Road and a portion of Interstate 10. If the project proponent constructs the transmission line for the EMPS Project along Eagle Mountain Road and fences the area during construction, a zoo-like environment will be created, isolating desert tortoise to the relocation site. Thus, the Department recommends that the EMPS Project transmission line be collocated with Desert Sunlight’s transmission line along Kaiser Road as it would minimize impacts to desert tortoise and the amount of raven subsidies within critical habitat, DWMA habitat, and the local area. In addition, the Department prefers that the EMPS Project transmission line connect

to the planned Red Bluff Substation A rather than build an additional substation. The additional substation would be located within critical habitat and DWMA habitat and would provide additional perch sites for ravens and therefore increase predation on resident desert tortoise populations as well as any translocated desert tortoise. The establishment of any redundant transmission facilities in the project site and adjacent areas will likely increase the direct, indirect, and cumulative impacts on desert tortoises, which may compromise recovery actions for the species within this critical habitat unit. Please note that regardless of the ultimate alignment of the transmission line, a raven management plan will need to be developed for the entire project site, including transmission lines and other facilities, to address increased predation on local desert tortoise populations.

Impacts to Nelson's Bighorn Sheep

The DEIR states that Nelson's bighorn sheep are present within the project site. Nelson's bighorn sheep are managed by the Department as a game species. The DEIR indicates that project construction and operation may have the following potential impacts to bighorn sheep: disturbance to migration patterns, foraging habitat, and breeding and lambing behavior; attraction to the reservoirs as a water source and subsequent drowning; and changes in local water sources such as springs. The Department recommends that project construction and operation is scheduled and designed to avoid and minimize impacts to bighorn sheep to the maximum extent possible. A qualified and Department-approved biologist shall survey the entire project site and adjacent areas for bighorn sheep using Department and/or FWS protocol prior to the commencement of project activities. Temporary fencing shall be provided around the project site as determined appropriate by the biologist to prevent bighorn sheep from entering active project construction areas or other areas that may be hazardous. The fencing shall be designed to ensure that bighorn sheep have sufficient migration paths and foraging areas for the duration of project construction. Permanent fencing shall be provided along the entire perimeter of each reservoir to prevent sheep from entering the reservoirs and drowning. All bighorn sheep exclusion fencing shall measure a minimum 6 feet in height and be inspected on a monthly basis. The DEIR states that the reservoir fencing will contain "dips" for drinking access, however if local springs or free standing water is adversely impacted or depleted by the proposed project, the Department recommends that drinkers be installed at various locations away from the reservoirs within bighorn sheep migration and foraging areas to provide supplementary water sources and deter bighorn sheep from visiting the reservoirs. The Department shall determine the appropriate quantity and location of the drinkers. The FEIR shall include these and other measures to avoid and minimize impacts to Nelson's bighorn sheep.

Impacts to American Badger and Kit Fox

The DEIR states that both American badger and kit fox are present within the project site. American badger is designated as State-listed mammal species of special concern. Section 460 of Title 14 of the California Code of Regulations stipulates that desert kit fox may not be taken at any time. To avoid impacts to American badger and desert kit fox, a qualified and Department-approved biologist shall perform surveys for badger and kit fox dens within the entire project area, including all areas within 90 feet of all project facilities, utility corridors, and access roads, prior to the commencement of any project activities. Surveys may be conducted concurrently with desert tortoise pre-construction surveys. Each den that is identified shall be classified as inactive, potentially active, or definitely active. Inactive dens that will be potentially

impacted by project construction shall be excavated by hand and backfilled to prevent reuse by badgers and/or kit fox. Potentially active and definitely active dens that will be directly impacted by project construction shall be monitored by the biologist for 3 consecutive nights using a tracking medium, such as diatomaceous earth or fire clay, and/or infrared camera stations at the entrance. If no tracks are observed in the tracking medium or no photos of the target species are captured following the 3 nights, the den shall be excavated and backfilled by hand. If tracks are observed, and if high or low ambient temperatures could potential result in harm to badger or kit fox from burrow exclusion, various passive hazing methods may be used to discourage occupants from continued use. Once verified that a den is unoccupied, the den shall be excavated and backfilled by hand to ensure that no badgers or kit fox are trapped in the den. In the event that passive relocation techniques fail for badgers, the Applicant shall contact the Department to explore other relocation options, which may include trapping. The FEIR shall include these and other measures to avoid and minimize impacts to American badger and desert kit fox.

Impacts to Bats

The DEIR lists several sensitive bat species as being present or having the potential to be present within the project site, including: big free-tailed bat (*Nyctinomops macrotis*), California leaf-nosed bat (*Macrotus californicus*), pallid bat (*Antrozous pallidus*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), spotted bat (*Euderma maculatum*), Townsend's big-eared bat (*Corynorhinus townsendii*), and western mastiff bat (*Eumops perotis californicus*), all State-listed species of special concern. In addition, the project site has the potential to support several common bat species.

To avoid impacts to bats, the Department recommends that project construction is scheduled to avoid the maternity seasons (generally May through September) for bats that are present or have the potential to be present within the project site. If the maternity seasons cannot be avoided, a qualified and Department-approved biologist shall survey all known and potential roosting sites and hibernacula within one mile of the project site for the presence of bats. Surveys shall be conducted using Department and/or FWS protocol. All active roosting sites, maternity colonies, and hibernacula should be provided with a minimum setback distance of 500 feet from project activities. The Department recommends that the placement of project facilities is avoided within and adjacent to active roosting sites, maternity colonies, and hibernacula. Any roosting sites or hibernacula that cannot be avoided during project construction should be mitigated through the implementation of mitigation/protection measures (as determined in consultation with the Department) within adjacent, offsite lands containing bat colonies or suitable bat habitat, and/or through the acquisition of these lands for long-term conservation and protection of local bat species and their habitat. The FEIR shall include these and other measures to avoid, minimize and/or mitigate impacts to bats.

Impacts to Sensitive Bird Species

The DEIR lists several sensitive bird species as being present or having the potential to be present within the project site, including: American peregrine falcon (*Falco peregrinus anatum*), a State-listed endangered and fully protected species; gila woodpecker (*Melanerpes uropygialis*), a State-listed endangered species; golden eagle (*Aquila chrysaetos*), a State-listed fully protected species; and Bendire's thrasher (*Toxostoma bendirei*), burrowing owl (*Athene cunicularia*), crissal thrasher (*Toxostoma crissale*), loggerhead shrike (*Lanius ludovicianus*),

mountain plover (*Charadrius montanus*), north harrier (*Circus cyaneus*), short-eared owl (*Asio flammeus*), Sonoran yellow warbler (*Dendroica petechia sonorana*), vermilion flycatcher (*Pyrocephalus rubinus*), and yellow-breasted chat (*Icteria virens*), all State-listed species of special concern.

Per Section 3511 of the Fish and Game Code, fully protected birds may not be taken or possessed at any time. The project shall be designed to completely avoid golden eagle and American peregrine falcon. The Department recommends that no project activities are conducted during the period of January 1 through August 31 to ensure that golden eagle and American peregrine falcon are not impacted or otherwise disturbed while conducting nesting activities. Prior to the commencement of project activities, surveys shall be conducted by a qualified and Department-approved biologist using current Department and/or FWS protocol to ensure that golden eagle and American peregrine falcon are absent from the project site. In addition, golden eagle surveys shall be conducted where nesting, roosting, and/or foraging habitat exists within the project boundary and/or occurs within 10 miles of the project boundary. Any active nests that are found shall be provided with a minimum setback of ¼ mile. The biologist shall also be present for the duration of project construction to ensure that project activities are suspended should any golden eagle or American peregrine falcon enter the project site. The FEIR should include these and additional measures to completely avoid impacts to golden eagle and American peregrine falcon as both species are "no take" species.

Per Section 2080 et seq. of the Fish and Game Code, an Incidental Take Permit must be obtained by the project proponent from the Department if the proposed project has the potential to result in take of a species listed as threatened or endangered under the California Endangered Species Act. The Department recommends that the project be designed to avoid take of gila woodpecker. Recommended avoidance measures include: scheduling vegetation removal outside of the nesting season for gila woodpecker of April 1 through July 31, obtaining a qualified and Department-approved biologist to conduct preconstruction surveys for gila woodpecker using Department and/or FWS protocol and remain onsite for the duration of project construction to ensure that project activities are suspended should gila woodpecker enter the project site, and providing a minimum setback distance of 500 feet between project activities and any active nests. If impacts to gila woodpecker cannot be avoided during project construction, the project proponent must obtain an Incidental Take Permit from the Department. The FEIR should include the avoidance measures listed above as well as additional measures to avoid, minimize, and/or mitigate impacts to gila woodpecker.

The Department recommends that project construction is scheduled to avoid the nesting seasons of the various State-listed bird species of special concern that are present or have the potential to be present within the project site to avoid impacts to these species. If the nesting seasons of these species cannot be avoided, preconstruction surveys should be conducted by a qualified and Department-approved biologist per Department or FWS protocol/requirements to ensure that State-listed bird species of special concern are not impacted or otherwise disturbed by the proposed project. The FEIR should include these and other measures to avoid, minimize, or mitigate impacts to State-listed bird species of special concern.

Impacts to Nesting Birds

Sections 3503, 3503.5, and 3513 of the Fish and Game Code and the Migratory Bird Treaty Act prohibit take of all birds and their active nests, including raptors and other migratory non-game

Mr. Paul Murphey, State Water Resources Control Board
Eagle Mountain Pumped Storage Project, SCH No.2009011010
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birds. The Department recommends that project construction is scheduled to avoid the nesting seasons of local birds that are present or have the potential to be present within the project site. If the nesting seasons cannot be avoided, a qualified and Department-approved biologist shall survey all vegetation and other potential nesting sites within the project site for nesting birds using current Department or FWS protocol. Any active nests found shall be flagged and provided with a minimum setback of 200 feet for non-sensitive species and 500 feet for sensitive and listed species as well as raptors. The FEIR shall include these and other measures to avoid and minimize impacts to nesting birds.

Please note that if the FEIR for this project fails to identify all project impacts and adequately mitigate those impacts, the project proponent may be required to reinitiate the CEQA process under the direction of the Department to ensure that all project impacts are identified and adequately mitigated.

The Department appreciates the opportunity to comment on the DEIR. If you have any questions regarding this letter, please contact Anna Milloy at (909) 987-8176 or amilloy@dfg.ca.gov.

Sincerely,



Jeff Brandt
Senior Environmental Scientist
Habitat Conservation Planning Program

Cc: Department of Fish and Game
Anna Milloy, Ontario
Magdalena Rodriguez, Ontario
Jim Sheridan, Bermuda Dunes

Fish and Wildlife Service
Jody Fraser, Carlsbad

Bureau of Land Management
Larry LaPre, Moreno Valley
Mark Massar, Palm Springs